

No.



8100050

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Dr. Brent Loy
New Hampshire Agricultural Experiment Station
Department of Plant Science

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS OF SEED FROM THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SQUASH

'Autumn Pride'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington this 19th day of November in the year of our Lord one thousand nine hundred and eighty-one.

Attest:

Dynamis L. Loe
Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

John R. Block
Secretary of Agriculture

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INSTRUCTIONS

GENERAL: Send an original copy of the application and exhibits, at least 2,500 viable seeds, and \$500 fee (\$250 filing fee and \$250 examination fee) to U.S. Dept. of Agriculture, Agricultural Marketing Service, Livestock, Poultry, Grain and Seed Division, Plant Variety Protection Office, National Agricultural Library Building, Beltsville, Maryland 20705. (See section 180.175 of the Regulations and Rules of Practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

ITEM

- 5 Give the date the applicant determined that he had a new variety based on (1) the definition in section 41(a) of the Act and (2) the date a decision was made to increase the seed.
- 13a Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4) evidence of uniformity and stability.
- 13b Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties: (1) identify these varieties and state all differences objectively; (2) attach statistical data for characters expressed numerically and demonstrate that these differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.
- 13c Fill in the Exhibit C, Objective Description form, for all characteristics for which you have adequate data.
- 13d Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe, such as, plant habit, plant color, disease resistance, etc.
- 14a If "YES" is specified (seed of this variety be sold by variety name only as a class of certified seed) the applicant may NOT reverse his affirmative decision after the variety has either been sold and so labeled, his decision published, or the certificate has been issued. However, if the applicant specified "NO," he may change his choice. (See section 180.16 of the Regulations and Rules of Practice.)
- 15a See section 42 of the Plant Variety Protection Act and section 180.7 of the Regulations and Rules of Practice.



APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: See Reverse.

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1a. TEMPORARY DESIGNATION OF VARIETY XPO25		1b. VARIETY NAME AUTUMN PRIDE r/s 9/15/81		FOR OFFICIAL USE ONLY PV NUMBER 8100050	
2. KIND NAME Squash		3. GENUS AND SPECIES NAME Cucurbita maxima		FILING DATE 2/6/81 m	TIME 1:30 A.M. P.M.
4. FAMILY NAME (BOTANICAL) Cucurbitaceae		5. DATE OF DETERMINATION Sept., 1979		FEE RECEIVED \$ 500.00 \$ 250.00	
6. NAME OF APPLICANT(S) Dr. Brent Loy New Hampshire Agric. Ext. Sta. Dept. of Plant Science		7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) University of New Hampshire Durham, NH 03824		8. TELEPHONE AREA CODE AND NUMBER 603-865-1205	
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.) New Hampshire Agric. Exp. Station			10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION		11. DATE OF INCORPORATION
12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS: Dr. Bryant Long Agway Inc. - Vegetable Seed Farm P.O. Box 356 Prospect, PA 16052 (412) 865-2096 r/s 2/6/81					
13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED: <input checked="" type="checkbox"/> 13A. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.) <input checked="" type="checkbox"/> 13B. Exhibit B, Novelty Statement. <input checked="" type="checkbox"/> 13C. Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.) <input checked="" type="checkbox"/> 13D. Exhibit D, Additional Description of the Variety.					
14a. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a). (If "Yes," answer 14B and 14C below.) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
14b. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			14c. IF "YES," TO 14B, HOW MANY GENERATIONS OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input checked="" type="checkbox"/> CERTIFIED		
15a. DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? (If "Yes," give name of countries and dates.) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
15b. HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO (If "Yes," give name of countries and dates.)					
16. DOES THE APPLICANT(S) AGREE TO THE PUBLICATION OF HIS/HER (THEIR) NAME(S) AND ADDRESS IN THE OFFICIAL JOURNAL? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
17. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable. The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act. Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.					
01/30/81 _____ (DATE)			Brent Loy _____ (SIGNATURE OF APPLICANT)		
_____ (DATE)			_____ (SIGNATURE OF APPLICANT)		

Exhibit A - Origin and Breeding History of Variety

^{'AUTUMN PRIDE' rfs 9/15/81}
 The strain ~~XP025~~ was developed by the pedigree method using the following Cucurbita maxima strains as described below:

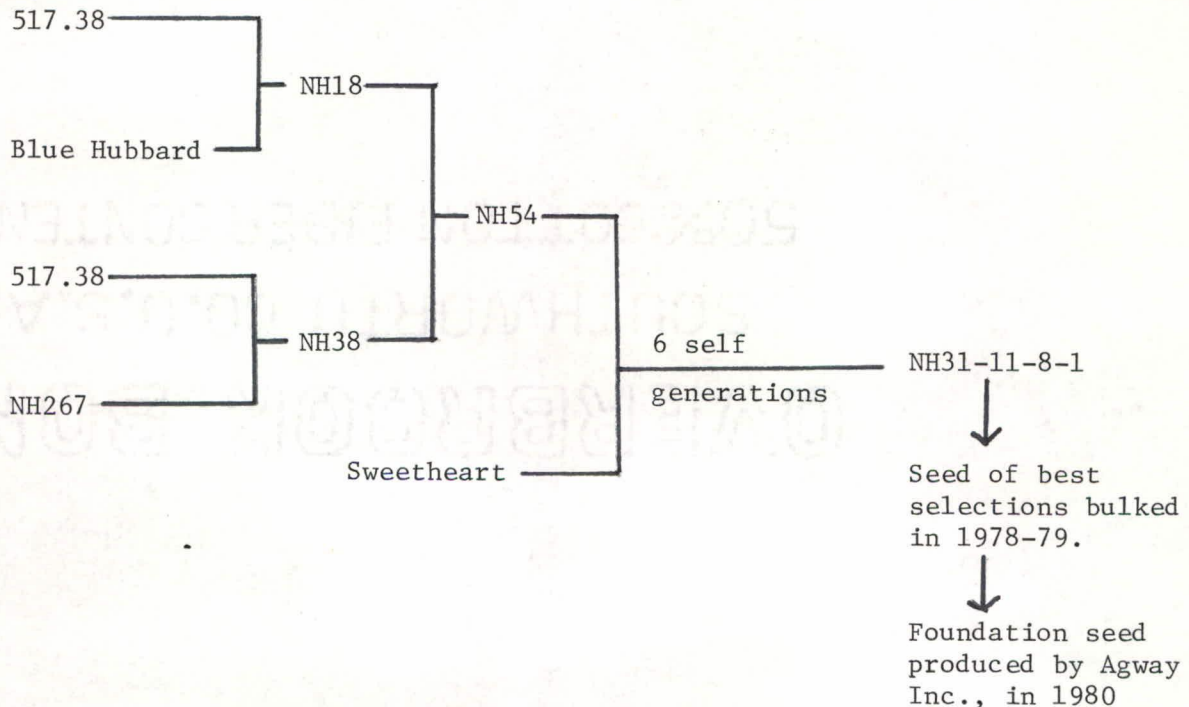
Blue Hubbard (BH) - vine strain

NH267 - Semi-bush strain, orange fruit (NH A.E.S.)

517.38 - Compact bush strain originally obtained from Minn. A.E.S.

Sweetheart (SH) - mass selected heirloom vine strain obtained from
 Colby Brothers, Litchfield, N.H., in 1968.

Breeding commenced in the summer of 1968.



^{'AUTUMN PRIDE'}

The bush strain ~~XP025~~ (designated NH 31-11-8-1 above) appears to be very uniform for bush habit of growth and fruit color and shape. No noticeable variants have been identified.

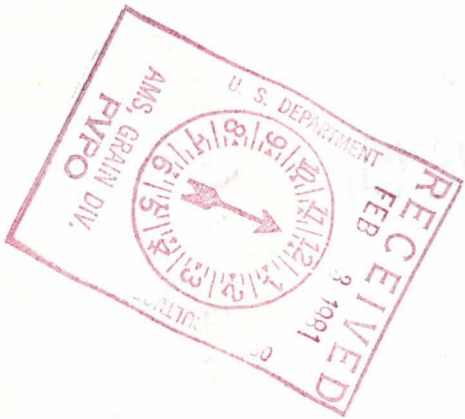


Exhibit B - Novelty Statement

'AUTUMN PRIDE'

Strain ~~XP025~~ exhibits a bush or compact phenotype characterized by short, thick internodes, long petioles, and large shallow-lobed leaves. In terms of growth habit XP025 most closely resembles the cultivar Emerald. Compared to Emerald, ~~XP025~~ has a denser growth habit, larger leaves, and produces only one or sometimes two large pink-beige fruit (5 to 10 kg) per plant, whereas Emerald produces 3 to 6 small (1 to 2 kg) green fruit.

Fruit shape, fruit size, and rib furrowing in ~~XP025~~ most closely resembles that of the cultivar 'Marblehead' (seed obtainable from National Seed Laboratory in Fr. Collins, CO). Unlike ~~XP025~~, Marblehead produces long runners or vines and the fruit is blue-grey in external color.

'AUTUMN PRIDE'

'AUTUMN PRIDE'

Exhibit D -

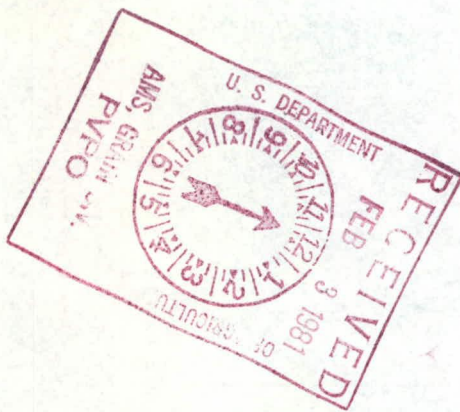
'AUTUMN PRIDE'

~~XP025~~ was developed specifically as a processing squash (pie and baby food industries), but has also tested well as a baking squash and for freezing. The plant exhibits more vigorous growth and a more dense habit of growth than bush strains of Cucurbita maxima which have been previously released (Gold Nugget and Emerald). Also, the latter cultivars produce several small fruit per plant, whereas ~~XP025~~ usually produces one large fruit per plant under planting densities of one to two square meters per plant. Because ~~XP025~~ 'AUTUMN PRIDE' produces extremely long sturdy petioles (up to 140 cm), plants give the appearance of a true bush rather than a vine or semi-bush form of growth.

Yields of ~~XP025~~ (1978, 79, 80) in Durham, N.H. have ranged from 61,000 to 81,000 kg/ha, depending upon the planting density. Fresh weight yields of ~~XP025~~ exceeded that of 'Blue Hubbard', a high yielding vine cultivar, in comparative spacing trials conducted in 1980 (see table below).

Spacing	Fresh wt. Fruit (Kg)	Kg.Ha fr. wt.
'AUTUMN PRIDE' XP025 (bush)		
0.3 x 1.5 m	3.6 a	77,700 a
0.6 x 1.5 m	6.6 b	71,000 ab
0.9 x 1.5 m	9.0 c	64,600 bc
1.2 x 1.5 m	10.6 d	61,300 bc
Blue Hubbard		
1.2 x 1.5 m	10.6 d	57.300 c

200001105 FIREB-CONTENT
200001105 FIREB-CONTENT
OAKBROOK BOND



8b. FLOWER - Staminate:

Sepals: MM LENGTH Sepals: MM WIDTH Pedicel: CM LENGTH

Color: 1 = WHITE 2 = LEMON YELLOW 3 = MID-YELLOW 4 = DEEP YELLOW 5 = ORANGE

9. FRUIT (Market Maturity)

mid-width = 28cm

1 x 1.5m spacing

CM LENGTH CM WIDTH (Stem end) CM WIDTH (Blossom end) GM AVERAGE WEIGHT

Shape according to variety type: 1 = ACORN 2 = BANANA 3 = BUTTERCUP 4 = BUTTERNUT
5 = CONNECTICUT FIELD 6 = CROOKNECK 7 = HUBBARD 8 = SCALLOP
9 = STRAIGHTNECK 10 = OTHER (Specify) oval

Apex: 1 = DEPRESSED 2 = FLATTENED

Base: 3 = ROUNDED 4 = TAPER POINTED

Ribs: 1 = NONE 2 = INCONSPICUOUS 3 = PROMINANT

Rib Furrows: 1 = SHALLOW 2 = MEDIUM DEEP Rib Furrows: 1 = NARROW 2 = MEDIUM WIDE 3 = WIDE

Fruit Surface: 1 = SMOOTH 2 = FINE WRINKLE 3 = SHALLOWLY WAVY

Warts: 1 = NONE 2 = FEW 3 = MANY

Blossom Scar Button: 1 = DEPRESSED 2 = SLIGHTLY EXTENDED 3 = RAISED ACORN

10. RIND

MM THICKNESS AT MEDIAL 1 = SOFT 2 = HARD 3 = WOODY & TOUGH

COLOR PATTERN: 1 = REGULAR 2 = IRREGULAR

COLORS: (Select two when necessary, i.e. Grayish—Buff)

01 = WHITE 02 = CREAM 03 = YELLOW 04 = BUFF 05 = BROWN 06 = BRONZE 07 = GREEN 08 = ORANGE
08 = PINK 10 = RED 11 = BLUE 12 = GRAY 13 = BLACK 14 = OTHER (Specify) Pale orange

SELF OR GROUND

PATTERN:

LOCATION OF PATTERN COLORS:

STREAKS

1 = NOT SPECIFIC

STRIPES

2 = STEM END HALF

SPOTS

☒ 3 = BLOSSOM END HALF

BLOTCHES

4 = ACORN OR TORBAN

LACE

5 = OTHER (Specify) _____

OTHER (Specify) _____

11. FLESH

Thickness: MM BLOSSOM END

Thickness: MM MEDIAL

Thickness: MM STEM END

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Pumpkin/
Squash/Gourd)

OBJECTIVE DESCRIPTION OF VARIETY
PUMPKIN/SQUASH/GOURD (CUCURBITA SPP.)

NAME OF APPLICANT(S) <u>Dr. Brent Loy</u> <u>New Hampshire Agric. Exp. Station</u> <u>Dept. of Plant Science</u> <u>University of New Hampshire</u> <u>Durham, NH 03824</u>	VARIETY NAME OR TEMPORARY DESIGNATION <u>*PO25 'AUTUMN PRIDE'</u> <u>hfs 9/15/81</u>
ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)	FOR OFFICIAL USE ONLY PVPO NUMBER <u>8100050</u>

Place the appropriate number that describes the varietal character of this variety in the boxes below.

Place a zero in first box (e.g., 089 or 09) when number is either 99 or less or 9 or less.

1. SPECIES:

2 1 = LAGENARIA 2 = MAXIMA 3 = MIXTA 4 = MOSCHATA 5 = PEPO 6 = OTHER (Specify) _____

2. KIND (According to use):

2 1 = PUMPKIN 2 = SQUASH 3 = GOURD

3. TYPE:

2 1 = SUMMER (Vegetable Marrow) 2 = WINTER (Boston Marrow)

4. COTYLEDON:

50 MM. LONG 30 MM. WIDE

2 Apex: 1 = TAPERED 2 = ROUNDED 3 = NOTCHED 3 Veining: 1 = OBSCURE 2 = PLAINLY VISIBLE
3 = PROMINENT

4 1 = LIGHT GREEN 2 = GRAY-GREEN 3 = MEDIUM GREEN 4 = DARK GREEN

5. PLANT:

1 1 = BUSH 2 = SEMI-BUSH 3 = LONG VINES 1 1 = PILOSE 2 = PRICKLY 3 = GLABROUS

6. MAIN STEM:

1 1 = ROUND 2 = ANGLED 60 MM. DIAMETER AT MID-POINT OF FIRST INTERNODE 02.5 CM. AVERAGE LENGTH

22 AVERAGE NUMBER OF INTERNODES

(at end of growing season)

7. LEAVES:

3 Shape: 1 = OVATE 2 = ORBICULAR
3 = RENIFORM 4 = RETUSE

2 Shape: 1 = NOT LOBED 2 = SHALLOW LOBED
3 = DEEP LOBED

3 Margin: 1 = ENTIRE 2 = DENTICULATE 3 = DENTATE 2 Margin: 1 = FLAT 2 = FRILLED

45 CM. WIDE 30 CM. LONG (petiole to tip) Surface: 1 = SMOOTH 2 = BLISTERED

2 Dorsal Surface: } 1 = GLABROUS 2 = SOFT HAIRY 3 = BRISTLED

3 Ventral Surface: }

4 1 = LIGHT GREEN 2 = GRAY-GREEN 1 1 = NOT BLOTCHED 2 = BLOTCHED WITH GRAY
3 = MEDIUM GREEN 4 = DARK GREEN

120 CM. PETIOLE LENGTH (mature leaves - mid summer)

8a. FLOWER - Pistillate:

CM. DIAMETER Ovary: 1 = DRUM-LIKE 3 = FUSIFORM Pedicel: CM. LENGTH
2 = TURBINATE

2 Margin: 1 = STRAIGHT 2 = CURVED 2 Margin: 1 = PLAIN 2 = FRILLED Sepals: MM. WIDTH Sepals: MM. LENGTH

Color: 1 = WHITE 2 = LEMON YELLOW 3 = MID-YELLOW 4 = DEEP YELLOW 5 = ORANGE

☐ 1 Texture: 1 = FINE 2 = GRANULAR 3 = LUMPY
☐ 2 Texture: 1 = DRY 2 = MOIST 3 = JUICY
☐ 2 Quality: 1 = INEDIBLE 2 = GOOD 3 = EXCELLENT

☐ 3 Texture: 1 = SOFT 2 = FIRM 3 = BRITTLE
☐ 2 Flavor: 1 = INSIPID 2 = SLIGHTLY SWEET 3 = SWEET
☐ 08 Color: (Choose from rind colors above)

12. SEED CAVITY: (Sectioned apex to base)

☐ 32 CM LENGTH ☐ 18 CM WIDTH

☐ 1 Location: 1 = CONFORMS TO FRUIT SHAPE 2 = NEAR APEX 3 = APEX ONLY
☐ 2 Placental Tissue: 1 = SPARSE 2 = MODERATELY ABUNDANT 3 = ABUNDANT
☐ 1 Center Core: 1 = INCONSPICUOUS 2 = PROMINANT

13. FRUIT STALKS

☐ 04 CM LENGTH (dried) ☐ 04 CM DIAMETER (dried)

☐ 2 1 = ROUND 2 = IRREGULAR ☐ 1 = NOT TWISTED 2 = TWISTED
☐ 3 Texture: 1 = SOFT 2 = SPONGY 3 = HARD ☐ 2 1 = NOT TAPERED 2 = TAPERED
☐ 2 Surface: 1 = SMOOTH 2 = ROUGH 3 = SPINY ☐ 2 1 = STRAIGHT 2 = SLIGHTLY CURVED 3 = CURVED
☐ 2 Detaches: 1 = EASILY 2 = WITH DIFFICULTY ☐ 2 Farrows: 1 = NONE 2 = SHALLOW 3 = DEEP
☐ 1 Attachment End: 1 = NOT EXPANDED 2 = SLIGHTLY EXPANDED 3 = EXPANDED
☐ 2 Color: 1 = LIGHT GREEN 2 = MEDIUM GREEN 3 = DARK GREEN

14. SEEDS

☐ 19 MM LENGTH ☐ 11 MM WIDTH ☐ 03 MM THICKNESS

☐ 1 Face Surface: 1 = SMOOTH 2 = WRINKLED 3 = SLIGHTLY PITTED 4 = SCALY 5 = CREASED
☐ 1 Luster: 1 = DULL 2 = GLOSSY ☐ 1 Color: 1 = WHITE 2 = CREAM 3 = BUFF 4 = BROWN
☐ 1 Margin: 1 = STRAIGHT 2 = CURVED 3 = TWISTED
☐ 2 Separation from pulp: 1 = EASY 2 = MODERATELY EASY 3 = DIFFICULT
☐ 20 GMS PER 100 SEEDS
☐ 200 NO. SEEDS PER FRUIT ☐ 1 1 = NORMAL 2 = NAKED

15. DISEASE RESISTANCE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

☐ 1 POWDERY MILDEW ☐ 0 CUCUMBER MOSAIC ☐ 0 SQUASH MOSAIC
☐ 0 WATERMELON MOSAIC ☐ OTHER (Specify) _____

16. INSECT RESISTANCE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

☐ 0 SQUASH BUG ☐ 1 SQUASH BORER ☐ OTHER (Specify) _____

17. INDICATE A VARIETY MOST CLOSELY RESEMBLING THAT SUBMITTED FOR EACH CHARACTER

CHARACTER	VARIETY	CHARACTER	VARIETY
PLANT HABIT	Emerald	FRUIT SHAPE	Marblehead (2)
LEAF TYPE	Blue Hubbard	FRUIT COLOR	Unique
FLOWER TYPE	Blue Hubbard	CULINARY TYPE	Blue Hubbard

REFERENCES

- Currence, T. M. 1954. Vegetable Crops Breeding, Department of Horticulture, University of Minnesota.
- Tapley, W.T., Enzie, W.D. and Van Eseltine, G. P., 1937. Vegetables of New York: The Cucurbits 1 (4). J.B. Lyon Company, Albany, New York.
- USDA Farmess Bulletin No. 1086. 1969. Growing Pumpkins and Squashes.
- Whitaker, T.W. and G.N. Davies. Cucurbits. Interscience Publications, Inc., New York, N.Y.

